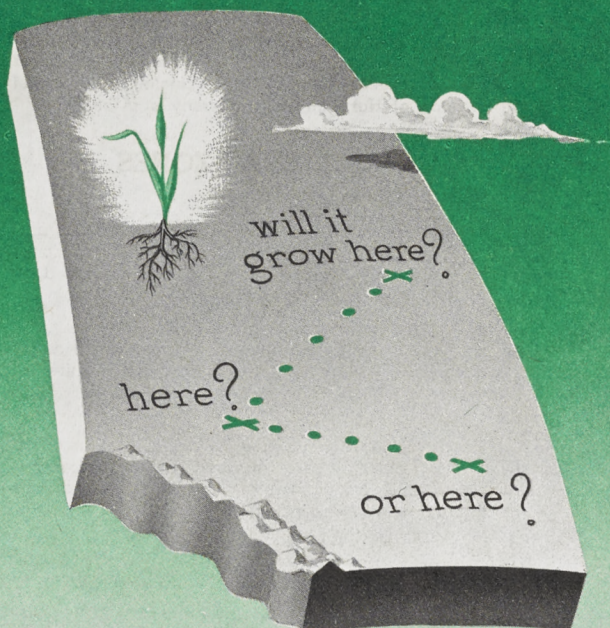


# *Alberta* **HORTICULTURAL GUIDE**



**GARDENING INFORMATION  
SPECIALLY PREPARED BY**

**ALBERTA HORTICULTURAL  
ADVISORY COMMITTEE**

*1960 - 1961*

# READ THIS CAREFULLY

## INTRODUCTION

The Horticultural Guide gives you:

A map of Alberta showing the Horticultural Zones (see centre two pages); lists of recommended fruits and vegetables for each zone; concise information on many hardy ornamental plants; and other practical help that should be of interest and value to home and commercial gardeners. **Keep it with your gardening books for reference.**

This booklet is revised every two years and up-to-date information is incorporated. Natural variation in growing conditions, in soils, sites, amount of shelter, rainfall, proximity of large bodies of water, and sharp changes in altitude, all may cause local areas in any zone to be more or less favorable. The varieties listed are not the only ones that can be grown satisfactorily; they are the ones considered to be most widely adaptable. When reporting gardening experience, keep these factors in mind. **Interested gardeners can help improve the Guide by sending reports of successes or failures with new or unusual plants and techniques to the Provincial Horticulturist or to the Division of Horticulture, University of Alberta.**

## HORTICULTURAL ZONES

(See pages 16 - 17)

The Western Provinces are divided into six horticultural zones, some of which are subdivided. The Alberta zones designated on the large map, pp. 16 - 17, are described as follows:

- 2A 125 - 155 days frost-free period (29° F.). With supplementary water this zone will produce specialized crops. It is subject to severe chinooks, and fruits require an abundance of shelter. Elevation 2,000 - 3,000 feet. High evaporation.
- 2B 120 - 130 days (29° F.). Extremely dry zone. Elevation 2,000 - 2,400 feet. With irrigation, will produce specialized crops. Not so subject to severe chinooks as District 2A. High evaporation.
- 2C 100 - 120 days (29° F.). Ideally suited for horticulture when supplementary water is available. Elevation 3,000 - 3,500 feet. Hot growing season. High evaporation.
- 3 100 - 110 days (29° F.). Zone of limited moisture. Elevation 2,000 - 2,400 feet. Suitable for all horticultural crops in selected areas. Moderate evaporation. Sand-hills are similar to Zone 5.
- 3A 100 - 120 days (29° F.). Elevation 2,000 - 3,500 feet. Moderate precipitation and low evaporation. Ideally suited to cool season crops.
- 5 90 - 100 days (29° F.). Elevation 2,400 - 4,000 feet, being low to the north. Variable precipitation and evaporation.
- 5B 90 - 100 days (29° F.). Elevation 1,500 - 2,500 feet. Precipitation moderate but water table low and sub-soil clay is cold and impervious, and growth often slow.
- 6B 90 - 110 days (29° F.). The suitable areas are below 4,000 feet. Ample moisture, low evaporation.
- 6C Similar to 6B, but with higher summer temperatures.



# RECOMMENDED FRUIT VARIETIES

## Key

S—satisfactory; F—fair; T—trial; U—unsatisfactory because of disease, low quality, etc.  
 —behaviour not known. *f* not resistant to fireblight.  
 \* suitable for freezing.  
 \*\* suitable for general processing.

## Varieties

## Zones

### CRABAPPLES

	2A	2B	2C	3	3A	5	5B	6B
** Anaros.....	S	S	S	S	S	S	S	T
** Columbia.....	S	S	S	S	S	S	S	T
Dolgo.....	S	S	S	S	S	S	U	U
Garnet.....	S	S	S	S	S	S	—	—
** <i>f</i> Osman.....	S	S	S	S	S	S	S	T
** <i>f</i> Robin.....	S	S	S	S	S	S	U	U
Silvia.....	S	S	S	S	S	S	—	—

Worthy of propagation by nurseries and growing by gardeners: — Rosthern 16, Rosthern 17, Pattie, B No. 10.

### ORNAMENTAL CRABAPPLES

(No fruit value). White flowering—Arctic Dawn;  
 Red flowering—Almey, Jubilee, Strathmore, Leslie.

### APPLE CRABS

Kerr.....	T	T	T	T	T	T	T	—
Rescue.....	S	S	S	S	S	S	U	U
Renown.....	T	T	T	T	T	T	T	T
Rosthern No. 15.....	T	S	S	S	S	T	T	T

Trail, Rosilda — Tender and subject to fireblight, but of very high quality to eat out of hand.

### APPLES

Haralson.....	T	S	T	S	T	U	U	U
Heyer No. 12.....	S	S	S	S	S	S	S	T

Battleford, Heyer No. 6 and Heyer No. 20 worthy of trial.

**Suggested for limited trial:** Brooks No. 43, Saskatchewan A59 - 375, Pioneer No. 10, Aker's Special.

### PEARS

Golden Spice, Pioneer No. 3, Tait Dropmore, Tioma, Olia, Fedorovsk, Siberian sdls., Bantam, Petrovsk.

### PLUMS — NATIVE

Assiniboine.....	F	S	S	F	F	U	U	U
Bounty.....	F	S	S	F	F	U	U	U
** Dandy.....	F	S	S	S	S	T	T	—
Norther.....	F	S	T	S	S	T	U	U

### PLUMS — HYBRIDS OR OTHER SPECIES

Grenville.....	F	S	S	T	U	U	U	U
Ivanovka.....	T	T	T	T	T	T	T	—
La Crescent.....	F	S	S	U	U	U	U	U
Mandarin.....	F	S	S	S	T	T	S	—
Mina.....	F	S	S	F	S	U	U	U
** Ojibwa.....	F	S	S	F	U	U	U	U
Pembina.....	F	S	S	F	F	T	U	U
Pttisin No. 5, No. 9, No. 10, No. 12.....	T	T	T	T	T	T	T	—
Tecumseh.....	F	S	S	U	T	T	U	U

**Suggested for limited trial:** Brooks No. 40, No. 41, Manchurian plum sdls. (*Prunus salicina*).

**SANDCHERRY X PLUM HYBRIDS**

**Dura-----	S	S	T	S	S	T	U	U
**Manor-----	F	S	F	S	S	T	T	U
**Opata-----	F	S	F	S	S	T	U	U
**Sapa-----	F	S	F	S	S	U	U	U

**SANDCHERRIES**

Seedlings from selected Sandcherry seed are well worthy of a place in orchards and ornamental gardens.

**CHERRIES**

*Prunus japonica*, *P. tomentosa*, *P. fruticosa* — Seedlings from selected stock of these species are well worth growing.

Convoy, Compass, Valley City worthy of trial.

**APRICOTS**

Sandy soils with adequate air drainage and good protection from late winter and early spring thaws are suited to Apricots. Seedlings and named varieties can both be tried.

**CULTURAL NOTE**

A suitable site, ample windbreak protection, well-prepared land and vigorous one-year-old stocks of carefully selected hardy varieties will reward the grower with a successful home orchard. When planting the young trees, slant them at a 60° angle into the 2 o'clock sun and cover point of union with at least two inches of soil. Most fruit trees are self-sterile — that is the flowers will not set fruit when fertilized with their own pollen. This makes it necessary to plant more than one variety of each kind of fruit.

Manure should **not** be used around woody fruit plants in areas where soil nutrient levels are usually high. If it is necessary to modify soils that bake, peat moss or cut straw is preferable to manure.

**GRAPES**

Beta and Riding Mountain, worthy of trial on sandy soils in warm locations. (Cover vines during the winter for best results.)

**RASPBERRIES**

Chief, Honeyking, Latham, Madawaska, Rideau, Tweed.

The following varieties are worthy of trial: Wyoming (purple), Cumberland (black), Honeywood (black), Van Dyke.

Note: Chief and Honeyking are the hardiest varieties.

Raspberries should be well sheltered. In many districts winter cover is necessary, particularly in Zone 2A. Canes may be bent to ground in late



autumn and the tips covered with soil or poles in zones out of the chinook areas. Unless snowdrifts will cover them, do not plant raspberries on the south side of east-west shelter.

For diseases see pages 12 and 13.

#### Varieties

### CURRANTS (RED)

Prince Albert, Red Lake, Stephens.

### CURRANTS (WHITE)

White Grape, White Imperial.

### CURRANTS (BLACK)

Lee's Prolific, Magnus, Naples, Willoughby.

### CURRENT (Golden Flowering)

Missouri, Crandell. Worthy of trial are seedlings of Albol Black and Yellow.

\*Missouri currant selections are worthy of trial.

### GOOSEBERRY

Pixwell, Thoresen (Pembina Pride).

#### Zones.

2A 2B 2C 3 3A 5 5B 6B

### STRAWBERRY — June Bearing

*British Sovereign.....	S	S	S	T	T	T	T	T
*Dunlap.....	S	S	S	S	S	S	S	T
*Glenmore.....	F	S	F	T	S	T	T	T

### STRAWBERRY — Everbearing

*Gem.....	S	S	S	S	S	S	S	T
*Northerner.....	T	T	T	T	T	T	S	S

Brilliant, Cavalier, Grenadier, Guardsman, Parkland, Porter's Pride, Red Coat, worthy of trial.

Plant strawberries in soil containing an abundance of organic matter. Mulch lightly by the middle of September and increase the mulch after the ground is frozen.

## PLANTING DISTANCES FOR FRUITS

#### Distance Between Trees

	Variations	Recommended
Apples.....	14 to 20 ft.	16 ft.
Plums (tree).....	12 to 18 ft.	15 ft.
Cherry Plum.....	10 to 15 ft.	12 ft.
Sandcherries.....	1 to 8 ft.	5 ft.
Pears.....	14 to 20 ft.	16 ft.
Currants.....	6x 8 ft.	
Gooseberries.....	6x 8 ft.	
Grapes.....	8 x 8 or 8 x 10 ft.	
Raspberries—		
Hills.....	6 x 6 ft.	
Hedge.....	1 to 3 x 8 ft.	
Strawberries—		
June.....	18-24 in. x 4 ft.	
Everbearing.....	18 in. x 4 ft.	

To estimate number of plants per acre divide 43,560 by distance between rows times distance between plants.

# RECOMMENDED VEGETABLE VARIETIES

## Key

S—satisfactory ; F—fair ; T—trial ; U—unsuitable,  
because of disease, quality, etc.

—behaviour not known.

\* suitable for freezing. † suitable for storage.

## ARTICHOKE

Jerusalem.

## ASPARAGUS

\*Mary Washington. \*Viking (Vineland 35).

## BEANS

### BUSH SNAP

**Green:** \*Improved Tendergreen, \*Stringless Green-pod, \*Topcrop.

**Yellow:** \*Cherokee, \*Choctaw, \*Kinghorn Special, \*Puregold, \*Round Pod Kidney Wax.

### POLE

Pole beans are unsatisfactory in Zones 5, 5B and 6B.

**Green:** \*Blue Lake Strains, \*Kentucky Wonder, \*Scarlet Runner.

	Zones							
	2A	2B	2C	3	3A	5	5B	6B
<b>SHELL or DRY</b>								
Burbank -----	S	S	S	T	T	T	U	U
Michelite -----	S	S	S	T	T	U	U	U
Pacer -----	U	U	U	U	S	S	S	S
Sanilac -----	S	S	S	S	U	U	U	U

### BROADBEAN

\*Broad Windsor, \*Improved Long Pod, \*Super Long Pod.

## BEETS

**Early**—Green Top Bunching, Early Wonder.

**Main Crop**—†Detroit Dark Red.

## BROCCOLI

\*Italian Green (sprouting), \*Purple Heading, \*Waltham types.

## BRUSSEL SPROUTS

Brussel Sprouts are unsatisfactory in Zones 2A, 5 and 6B.

\*Catskill, \*Long Island Improved, Jade cross F<sub>1</sub>.

## CABBAGE

**Early**—Early Marvel, Early Wonder, Golden Acre.

**Midseason**—Bonanza, Copenhagen Market, Glory of Enkhuizen.

**Late**—†Ballhead (Danish, Hollander, Penn State).

**Savoy**—†Chieftain, Winter King.

**Red**—Red Acre, †Red Haco.



## CARROTS

**Half-Long**—Improved strains of †Chantenay, Nantes, Danvers, Touchan, \*Gold Pak.

**Long Bunching**—\*Amsterdam, \*Gold Spike, (Not suitable for heavy soils.)

## CAULIFLOWER

\*Dwarf Erfurt, \*Snowball types, \*Snowdrift.

## CELERY

**Golden**—Cornell 19, Cornell 619, Golden Self Blanching.

**Green**—Utah Types, Emerson Pasco, Greenlight.

## CELERIAC

†Prague.

## CHINESE CABBAGE

Michihli, Wong-Bok, Pakchoy (non-heading).

## CHARD

**Swiss**—\*Lucullus, \*Red Lucullus, Fordhook Giant.

	Zones							
<b>CORN</b>	2A	2B	2C	3	3A	5	5B	6B
<b>Sweet—Earliest</b>								
*Altalgold.....	S	S	S	S	S	S	S	T
*Earligold.....	S	S	S	S	S	S	—	—
<b>Sweet—Early</b>								
*Seneca 60 .....	S	S	S	S	S	S	T	U
*Spancross.....	S	S	S	S	S	S	S	T
<b>Sweet—Medium Season</b>								
*Golden Beauty.....	S	S	S	S	S	U	U	U
*North Star.....	S	S	S	S	T	U	U	U
*Seneca Golden.....	S	S	S	S	T	U	U	U
<b>Sweet—Late</b>								
*Golden Bantam.....	F	F	F	U	U	U	U	U
*Gold Rush.....	S	S	T	U	U	U	U	U
<b>Squaw (not sweet)</b>								
Early Alberta.....	U	S	S	S	S	S	S	T

## CUCUMBER

### Field Slicing

Early Surecrop.....	S	S	S	S	S	T	T	T
Mandarin.....	F	F	U	T	S	S	F	T
Marketer.....	S	S	S	S	S	T	U	U
Straight 8.....	S	S	S	S	F	F	U	U

### Pickling

Ohio M. R. 25.....	S	S	S	S	—	S	—	—
Mincu.....	S	S	S	S	S	S	F	U
Morden Hybrid.....	S	S	S	S	—	S	—	—
Wisconsin S.M.R. 12.....	S	S	S	S	—	S	—	—

## EGGPLANT

Black Beauty, Blackie, Early Black Oval and Morden Midget worthy of trial in southern areas.

## KOHLRABI

\*Triumph of Prague, \*White Vienna.

## KALE

Tall Green Curled.

## LEEK

Leeks are unsatisfactory in Zones 5, 5B and 6B.

†Giant Carentan, †Musselburgh, \* Large Flag.

## LETTUCE

**Crisp-head**—Premier Great Lakes, New York 12, Imperial 456.

**Butter-head**—Bibb, Big Boston.

**Cos**—Paris White.

**Leaf**—Black-Seeded Simpson, Grand Rapids, Salad Bowl.

## MUSKMELON

Muskmelons are satisfactory only in Zones 2A, 2B, 2C and 3.

\*Farnorth, Golden Champlain, Pennsweet.

## ONIONS

### DOMESTIC

**Yellow**—F. Hybrids, †Abundance, †Autumn Spice  
†Early Harvest and Yellow Globe Danvers varieties.

**Red**—†Red Wethersfield.

**White**—†Southport White Globe.

**Spanish**—Fiesta.

**Pickling**—White Portugal.

**Perennial**—Multipliers, Sets, Shallots, White Welsh, He-shi-ko.

## PARSLEY

Dark Moss (double curled), Paramount, Triple Curled.

## PARSNIP

†Guernsey, †Hollow Crown, Short Thick.

## PEAS

**Green, Early**—\*Little Marvel, \*Thomas Laxton.

**Green, Midseason**—\*Laxtonian (Blue Bantam), \*Lincoln (Homesteader), \*Progress, \*Wando.

**Green, Late**—\*Dark Skinned Perfection, Perfection, \*Stratagem, Telephone.

**Dried, Smooth**—Dashaway, Early Blue.

## PEPPER

**Hot**—\*Hungarian Yellow Wax, \*Long Red Cayenne, Long Shick Red.

**Sweet** — \*California Wonder, \*Hamilton Market, \*Harris Earliest, \*Morgold, \*Sunnybrook, \*Vinedale, \*Worldbeater. Satisfactory in Zones 2A, 2B, 2C, 3 and 3A.



## POTATOES

**Early**—Warba, Early Ohio (suitable only in drier prairie areas).

**Midseason**—†Cobbler.

**Late**—†Netted Gem (not suitable in drier prairie areas).

**Other**—Cherokee, Columbia Russet, Bliss Triumph, Norland and Nordak (subject to licencing).

## PUMPKIN

Connecticut Field, Sugar.

## RADISH

Cavalier, Cherry Belle, Comet, French Breakfast, Scarlet Globe, Sparkler, Icicle (Mid-Season).

## RHUBARB

\*Macdonald, \*Valentine, \*Victoria.

## RUTABAGA

**Purple Top**—Altasweet, †Laurentian.

**Green or Bronze Top**—†Ditmars.

## SPINACH

\*America, \*Bloomsdale, \*King of Denmark.

**Special Types**—\*New Zealand, Orach.

## SQUASH

**Summer** — \*Crookneck types, \*Scallop, Straightneck types.

**Winter, Small**—†Buttercup, \*Table Queen, \*Sweet Meats, Uconn (bush type).

**Winter, Large**—†Hubbard (green or golden).

## TOMATOES

Zones.

	2A	2B	2C	3	3A	5	5B	6B
<b>Determinate, Self-pruning</b>								
Early Chatham -----	S	S	S	S	S	F	S	T
Earlinorth -----	S	S	S	S	S	F	S	T
Early Lethbridge -----	S	S	S	T	F	—	U	U
Manitoba.....	S	S	S	S	F	F	U	U
Mustang.....	S	S	S	S	T	—	U	U
<b>Indeterminate, Pruned and Staked</b>								
Earliana (selections) ----	S	S	S	S	S	T	U	U
Quebec No. 5.....	S	S	S	S	S	T	U	T

## TURNIP

Purple Top Milan, White Milan.

## VEGETABLE MARROW

**English Bush**—\*Green Bush, \*White Bush.

**Italian**—†Cocozele, Zucchini.

## WATERMELON

Watermelons are worthy of trial in Zones 2A, 2B, 2C and 3.

Early Canada, New Hampshire Midget, Northern Sweet, Sweet Sensation, Sweet Siberian worthy of trial in southern areas.

# QUICK GUIDE TO VEGETABLE GARDENING

Vegetable	Inches Apart in Row.	Seeds for 100 ft. Row.	Transplanted or Seeded in Garden.	Yield from 100 ft. Row.
Asparagus.....	18-36	1 oz.	T. S	30 lb.
Beans, Bush.....	3-4	8-10 oz.	S	60 lb.
Beans, Pole.....	10-14	6 oz.	S	80 lb.
Beet.....	1-4	1 oz.	S	100 lb.
Broccoli.....	18-24	1/4 oz.	T	60 lb.
Brussels Sprout.....	18-24	1/4 oz.	T	75 lb.
Cabbage, Early....	18	1-2 pkt.	T. S	65 heads
Cabbage, Late....	24	1-2 pkt.	T	50 heads
Carrot.....	1-3	1/2 oz.	S	75 lb.
Cauliflower.....	20-24	1-2 pkt.	S	50 heads
Celery.....	6	2 pkt.	T	300 lb.
Cucumber.....	12	2 pkt.	T. S	100 lb.
Eggplant.....	18-24	1-2 pkt.	T	50 fruits
Kale.....	18-24	1/4 oz.	S	75 lb.
Kohlrabi.....	6-8	2 pkt.	T. S	75 lb.
Leek.....	2-4	1/2 oz.	T. S	60 lb.
Lettuce, Head.....	12	1 pkt.	T. S	100 heads
Lettuce, Leaf.....	6	2 pkt.	T. S	80 lb.
Muskmelon.....	12-24	1/2 oz.	T. S	100 fruits
Onion, Seed.....	1-3	2 pkt.	T. S	60 lb.
Onion, Sets.....	3	2 lb.	T	60 lb.
Parsley.....	4-8	1/4 oz.	S	40 lb.
Parsnips.....	2-4	1/2 oz.	S	60 lb.
Peas.....	2-3	1 lb.	S	40 lb.
Pepper.....	18	1/8 oz.	T	25 lb.
Potato.....	12-15	10 lb.	S	100 lb.
Pumpkin, Squash..	36	1/2 oz.	T. S	200 lb.
Radish.....	1-2	1 oz.	S	100 bunches
Rutabaga.....	6-8	1/4 oz.	S	200 lb.
Spinach.....	3-6	1 oz.	S	70 lb.
Sweet Corn.....	10-12	1/4 lb.	S	100 ears
Tomato.....	36	1/8 oz.	T	60 lb.
Turnips.....	3-4	1/2 oz.	S	150 lb.
Vegetable Marrow..	36	1/2 oz.	T. S	200 lb.
Watermelon.....	24-36	1 oz.	T. S	200 lb.

NOTE :—Seed packets vary quite widely in the numbers of seeds contained; yields, too, will vary with richness of soil, amount of water available and variety planted.

## HOME STORAGE OF GARDEN PRODUCE

It is well-known that freshly harvested vegetables are finest in food value and flavour. Even so, in the interests of food conservation and economy, we often wish to store good quality garden produce for periods of varying length. The three types of home storage used are :

1. a storage room in the basement of the house.
2. an outdoor, or specially constructed, storage cellar.
3. a compartment in the household refrigerator.

Ideally, any special storage chamber or cellar is best made along with the building involved; however,



quite good arrangements for air inlet and for ventilation often may be made by using a location where a basement window already exists. For the usual 6 x 8 foot basement storage chamber, air inlets and outlets of about 4 inches square, with adjustable closures, will be adequate. For a specially built farm root cellar, of concrete or wood and with enough insulation or earth and straw coverage, a cool air inlet of 8-inch diameter and outlet of 12 inches diameter will service a cellar with inside measurements of 12 x 10 x 8 feet. Two outlet ventilators should be used for larger cellars.

For the winter storage of fruits and vegetables, temperatures should be below 40° F. when possible. Potatoes will turn sweet in flavour if held long below 36° F., so a range of 36° to 40° F. is ideal. Earthen floors with slatted wood floor covering and slatted inside walls will help to maintain a high and steady humidity, and allow thorough air circulation. Where concrete floors already exist, humidity may be raised by placing 2 inches of insulation vermiculite or shredded peat on the floor and covering with a slatted wooden over-floor. The floor may then be kept moist with an occasional sprinkling with water. Onions, flower bulbs and squashes are about the only commonly-stored garden produce that does not benefit from a high (75%-95%) relative humidity.

In the case of fresh garden produce (lettuce, cabbage, celery, radishes, etc.) to be stored in an electric refrigerator, the main point to keep in mind is that the "crisper" section should be kept as tightly closed as the equipment allows, **after** the produce has been liberally sprinkled with cold water, or cracked ice. In this way, succulent garden plants may be kept in garden-fresh condition for several days.

## MAKING COMPOST HEAPS

The compost heap is usually oblong, not over 6 feet wide, as long as desired, and conveniently high—rarely over 5 feet. For the basic layer, 4 to 6 inches of inverted sods, straw or other coarse material is suitable. On this first layer spread a 3 or 4-inch layer of manure. To this add a layer of lawn clippings, leaves, or other vegetable refuse, and continue to alternate the layers of manure and plant material. In town and city gardens where manure is not readily available, fallen leaves, lawn clippings, pea vines, etc., if sprinkled with lime and fertilizer and kept moist, will give a valuable supply of compost. Do not put diseased plant material into the compost pile.

As the pile is built, the top should be kept flat or concave so that it will collect rather than shed rain. The pile should be kept moist and turned occasionally to hasten uniform decomposition.

The addition of good top soil fortified with commercial fertilizer containing nitrogen will speed up the decomposition of the organic matter and improve the nutrient value of the compost.

Among fertilizers suggested for this purpose are 16-20-0, 10-32-10, 27-14-0, Calcium cyanamide is particularly useful in the preparation of compost since it will first kill the weed seeds and seedlings and then break down to supply nitrogen for the decomposition of the organic matter.

# CONTROLLING GARDEN PESTS

## A. DISEASES.

### 1. Use only good planting stock.

Obtain seed and plants from reliable sources. Use government inspected material where possible, e.g., "certified" seed potatoes.

Resistant varieties such as rust-resistant snapdragons and wilt-resistant asters should be used when available. This is the most satisfactory method of controlling many diseases.

### 2. Protection of seed and seedlings.

Seed decay and seedling disease damage may be partially prevented by seed treatment. Regular treatment of some seeds to prevent seed rot is advisable, e.g., garden peas. Seed treatment may also help to prevent "damping off" and other diseases. Surface dressing of the soil of seed-beds with coarse sand, fine sphagnum moss or other mulch; care in watering; and the application of soil fungicides when needed will do much to prevent "damping off". Overwatering should be avoided (see Alberta Farm Guide, p. 81).

Bacterial diseases of beans often do great damage. The use of disease-free seed is the best method of prevention, but it is sometimes difficult to get such seed. The bacteria are spread in the row by splashing raindrops or by walking past the plants when the foliage is wet. If only a few plants are seen to be affected soon after they emerge it is advisable to pull them.

### 3. Protecting growing plants.

Chemical preparations applied as sprays or dusts, such as Bordeaux Mixture, wettable sulphur, and commercial organic germicides sold under trade names may be useful in reducing disease damage when applied to the foliage and other plant parts. Since in many cases these materials act to protect plants rather than to cure them, timely application is important. They should be applied as soon as or before any disease is detected and at about weekly intervals thereafter if necessary.

Fireblight of apples is a disease which has become quite a menace to susceptible apple varieties in parts of Alberta. Affected blossoms and leaf clusters turn brown and wilt, and twigs blacken and shrivel. Later cankerous areas of shrunken and discolored bark may appear on branches where such diseased shoots are attached. The causal bacterium overwinters at the edges of cankered areas. Removal of diseased parts by pruning during the dormant season may control the disease in isolated trees that are not highly susceptible. Cuts should be made well back of the borders of diseased bark with a tool steri-



lized between cuts with lysol or a solution of bichloride of mercury (1 part to 500 parts of hot water). If, however, there are other infected unpruned trees in the neighborhood as often happens in towns, these may serve as infection sources. The causal bacterium may be carried by bees from these to the blossoms of apple trees in the vicinity. Spraying of the blossoms with weak Bordeaux Mixture (2-4-40), or with an antibiotic such as Agristrep will reduce blossom infection but probably will not prevent it entirely. Where this situation prevails, therefore, it may be necessary to continue pruning throughout the growing season for the removal of diseased parts such as flower clusters, twigs, leaf clusters, suckers and branches.

Virus diseases commonly affect vegetables, fruit and ornamental plants producing different abnormalities such as mottling, yellowing, stunting and deformity. Plants so affected should be removed and promptly destroyed as they are unlikely to recover and since the virus infection may spread from them to healthy plants. Since such spread is commonly brought about by insects as green flies or aphids, insect control will help to prevent virus diseases. The best precaution one can take to avoid diseases of this type, however, is to use propagative material from healthy plants. It is possible of course to confuse abnormalities resulting from virus infection with other injuries, e.g., those resulting from 2,4-D sprays or nutrient deficiency.

Herbicide injuries occur very commonly in horticultural plants and these are largely preventable by using care in the application of weed killers. Dandelions in the lawn may be effectively killed by 2,4-D, but this chemical should be used with great caution in the vicinity of ornamentals and garden crops. Toxic concentrations of the chemical may be carried in the air for a considerable distance. Low volatile formulations of 2,4-D are safer for lawn use. Symptoms of 2,4-D injury vary in different plants, but deformity and curling of the leaves are the most common effects. Plants that are susceptible to damage include various ornamentals such as: American elm, birch, maple, cotoneaster, and vegetables especially beans, and tomatoes.

#### **4. Sanitation.**

During and following the growing season, prunings, trash and other harvest refuse should be either burned or buried. It should not be used for compost if diseased. Weeds should be controlled since these may harbor pathogens. General rotation of different kinds of flowers and vegetables in the garden will help to prevent the accumulation of disease organisms in the soil.

### **B—INSECTS**

Most insect pests of the garden can be controlled with insecticides, which are available in small pack-

ages. REMEMBER THAT INSECTICIDES ARE POISONS. KEEP THEM OUT OF REACH OF CHILDREN. The directions and cautions for the use of an insecticide are printed on the label of the package. Follow them very carefully, especially when the insecticide is used on the edible portions of plants. Avoid mistakes that will result in injury to plants, such as confusing 2,4-D with DDT or the use of barn spray on plants. A sprayer that has been used with 2,4-D should be used for insecticides only after it has been thoroughly cleaned. To clean, flush the sprayer several times with water, then fill with hot water and household ammonia (1 cup per 3 gallons of water), let stand for at least 24 hours, wash out with soapy water, then rinse.

**Insects that feed below ground**, such as cutworms, wireworms, and root maggots, can be controlled with aldrin, dieldrin, chlordane, or heptachlor. Apply the insecticide to the soil surface at the time of seeding or around the growing plants to be protected, then work it into the top few inches of soil. **Ants** can also be controlled with these insecticides.

**Insects that chew plants above ground** can in most cases be controlled with DDT or rotenone. Rotenone (derris) is safer than DDT to use on the edible parts of the plants as it breaks down rapidly. It does not protect the plants for as long a period and several applications may be needed. To control **currant and gooseberry maggots** apply DDT throughout the bushes when 80 per cent of the blossoms have dropped, and again 10 days later. **Pear slugs**, small black slug-like insects that skeletonize the leaves of cotoneaster and plum, are easily controlled with DDT. **Leaf miners**, which feed between the layers of a leaf causing unsightly blotches, can be controlled with malathion applied when the larvae are very young, that is, when the tunnels first appear, and before the leaves curl.

**Insects that suck plant juices**, such as aphids, leafhoppers, and scale insects, are best controlled with malathion. Where leaf-curling species of aphids are involved, as on elm, treat before curling begins. **Gladiolus thrips** can be controlled with DDT on the leaves during the growing season and on the corms during storage.

**Mites** cause leaves to become yellow speckled with white, turn brown, and drop. The leaf surface is often covered with fine webbing. Control with malathion. Other mites cause pimple-like growths on the leaves or, as on cottonwoods, rough, woody swellings on the twigs. Usually these do not kill the plants.

**Slugs** prefer heavily-watered, thickly-planted, or shaded areas. For control, use sprays, dusts, or baits containing metaldehyde. Most baits lose their effectiveness rapidly even while stored in the container.

**Earthworms** are a problem in many lawns. They can be controlled with lead arsenate or chlordane.

## C—RODENTS

Mice can be controlled by clean cultivation in the vicinity of woody plants. Pocket gophers can be effectively controlled by trapping in the early spring



using The Macabee gopher trap, or a No. 00 steel spring trap. Flooding the burrow system with water or gassing with carbon monoxide by directing automobile exhaust fumes into the burrow through a hose have also been successful.

Rabbits may be successfully controlled in summer in small areas by exclusion. Use a 36-inch poultry netting of 1½-inch mesh set six inches below ground level around valuable ornamentals, or completely fence the garden area. In winter, where snow drifting occurs, it may be necessary to apply a proven commercial repellent to a height beyond the reach of the rabbits.

For further information on rodent control, especially on the use of poisons over larger areas, see Department of Agriculture Publications Nos. 124 and 130.

**CAUTION.** — The poisons mentioned in the above sections should be handled with care. Read the label directions for specific information.

## D—WEEDS

Weed control is most important because of (a) the crowding effect on garden plants, and (b) their habit of robbing garden plants of moisture and nutrients. In the home garden one or several good sharp hoes should be kept close by — and used frequently — during the growing season. Sodium chlorate and Atlacide are useful poisons for killing weeds but they sterilize the soil for a year or more. 2,4-D is very commonly used now for lawns and cereals but cannot be used on or near broad-leaved garden plants, and should be used only as recommended by the manufacturers.

## DO'S FOR YOUR GARDEN

Prepare land thoroughly — for lawn, flowers, vegetables as well as for shrubs and trees. This means—

Dig, plow or use rotary cultivator only when the soil is not too wet, but moist and easily crumbled.

Remember to replace organic matter (by manure, peat-moss, composted vegetable matter), **especially** if you use a rotary cultivator, for these machines promote conditions that lead to a rapid breakdown in soil structure.

Keep garden areas away from seriously competing roots of large trees, and from heavy shade.

Make sure not to plant seeds too deeply, but also be certain that soil is in close contact with seeds and with the roots of transplants.

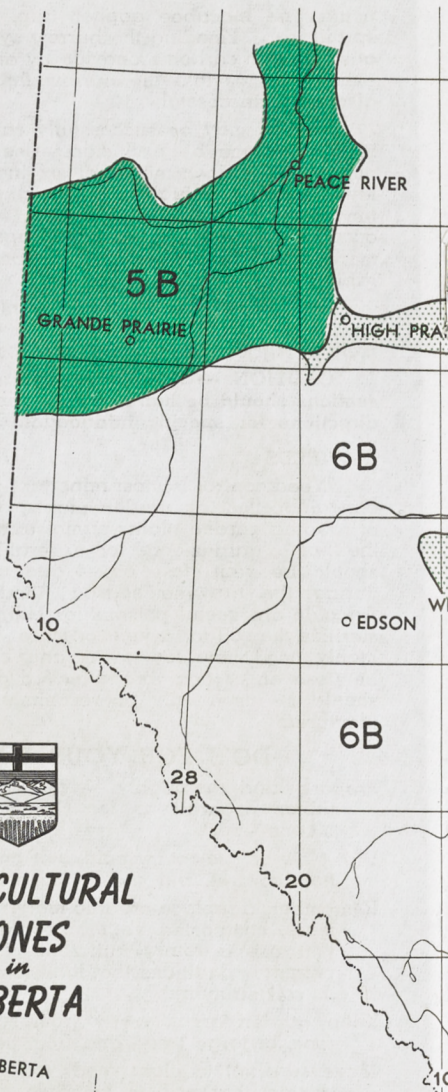
Apply some fertilizer if you feel the soil and plants need it, but keep away from direct contact with young roots of all plants.

Watch your hoeing technique, and keep from cutting the soil too deeply, otherwise feeder roots will suffer.

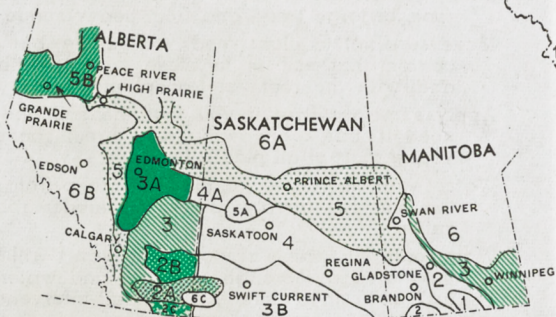
Water **only** when it is obvious that plants will benefit; then give a thorough soaking, and water again in 7 to 10 days' time, if no rainfall intervenes.

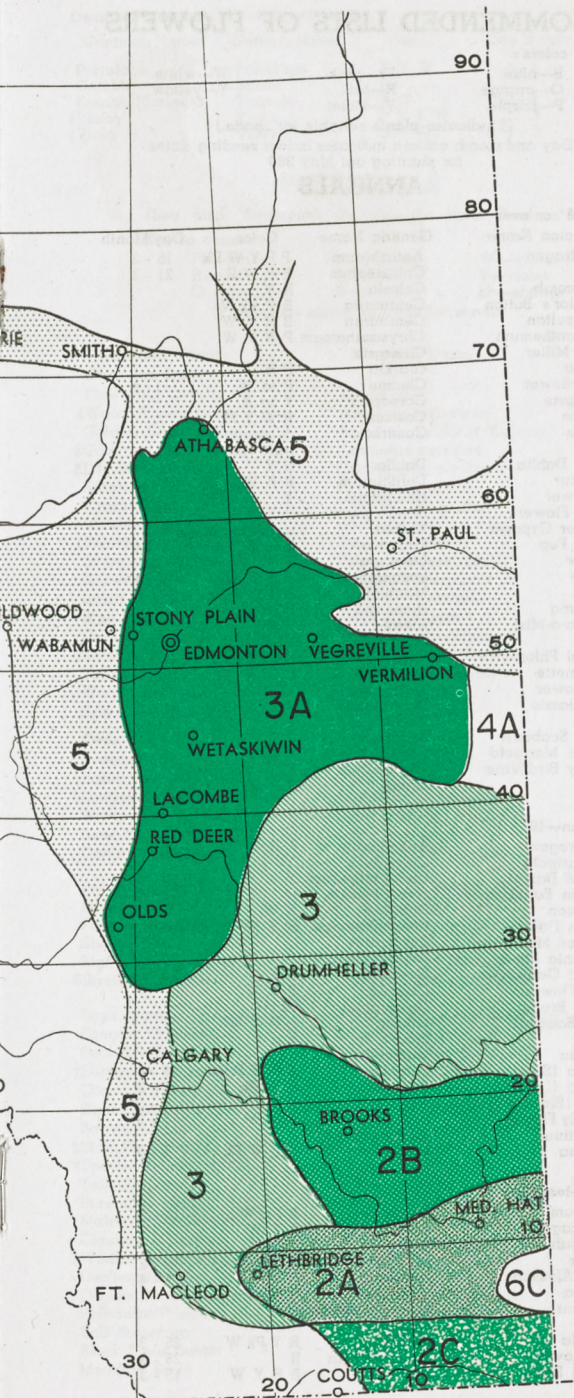
Use flowers for cutting and fruits and vegetables when they are "just right," rather than allowing them to pass their prime quality before use.





# **HORTICULTURAL ZONES in ALBERTA**







# RECOMMENDED LISTS OF FLOWERS

## Key to colors :

B—blue.	Pk—pink.	W—white.
O—orange.	R—red.	Y—yellow.
P—purple.	V—violet.	

(‡ indicates plants suitable for shade.)

(Day and month column indicates indoor seeding dates for planting out May 30.)

## ANNUALS

### Tall—18" or over

Common Name	Generic Name	Color	Day Month
Snapdragon	Antirrhinum	P R Y W Pk	15 - 3
Aster	Callistephus	B R W P	21 - 3
Cockscomb	Celosia	R Y	
Bachelor's Button	Centaurea	B P Pk W	
Sweetsultan	Centaurea	B R Y W	
Chrysanthemum	Chrysanthemum	P R Y W	
Dusty Miller	Cineraria		
Clarkia	Clarkia	P R	
Spiderflower	Cleome	P to W	1 - 4
Calliopsis	Coreopsis	Y to R	
Cosmos	Cosmos	R W Y Pk	
Gourds	Cucurbita	decorative fruit vine	
Dwarf Dahlia	Dahlia	R Y	10 - 4
‡Larkspur	Delphinium	B R W	1 - 4
Sunflower	Helianthus	Y	
Straw Flower	Helichrysum	R Y W	
Summer Cypress	Kochia	autumn foliage	
Sweet Pea	Lathyrus	B R W vine	1 - 4
Mallow	Lavatera	R W	
Statice	Limonium	B R Y W	1 - 4
Stocks	Matthiola	B R Y W Pk	30 - 3
Nicotiana	Nicotiana	R to W	
Love-in-a-Mist	Nigella	B W	
Poppy	Papaver	Pk R W	
Annual Phlox	Phlox	R Y W Pk P	15 - 3
Mignonette	Reseda	R Y W	
Coneflower	Rudbeckia	Y	
‡Salpiglossis	Salpiglossis	Y to R to B	15 - 3
Salvia	Salvia	R	1 - 3
Sweet Scabious	Scabiosa	B R W	
African Marigold	Tagetes	R to Y	10 - 4
Canary Bird Vine	Tropaeolum	Y	
Zinnia	Zinnia	R Y W	

### Medium—10" - 18"

Snapdragon	Antirrhinum	P R Y W	
Pot Marigold	Calendula	Y	
Painted Daisy	Chrysanthemum	Y	1 - 4
‡Chinese Forget-me-not	Cynoglossum	B	25 - 3
Carnation	Dianthus	R W	20 - 2
African Daisy	Dimorphotheca	R Y W	
Snow on Mountain	Euphorbia		
California Poppy	Eschscholtzia	O Y W	
Annual Gaillardia	Gaillardia	R Y	20 - 3
Satin Flower	Godetia	P R W	
Baby's Breath	Gypsophila	Pk W	
Fairy Bouquet	Linaria	P R Y W	
Flax	Linum	R	
Bartonia	Mentzelia	Y	
Petunia (Single)	Petunia	B R W P Pk	1 - 4
Petunia (Double)	Petunia	B W Pk	15 - 2
Salvia (Blaze of Fire)	Salvia	R	1 - 3
Butterfly Flower	Schizanthus	P R W	15 - 3
‡Nasturtium	Tropaeolum	R Y	
Verbena	Verbena	B R W Pk	1 - 3

### Dwarf—less than 10"

Ageratum	Ageratum	B Pk W	15 - 3
Snapdragon	Antirrhinum	R Y W	
Candytuft	Iberis	P R W	
Lobelia	Lobelia	B W	19 - 2
Sweet Alyssum	Lobularia	P W	15 - 4
Viscaria	Lychnis	R B	
Ice Plant	Mesembryanthemum	R B P	
Nemesia	Nemesia	R Y Pk W	25 - 3
Cup Flower	Nierembergia	B	25 - 3
Annual Phlox	Phlox	B R Y W	15 - 3



**Dwarf — less than 10" — (Continued).**

Common Name	Generic Name	Color	Day Month
Portulaca	Portulaca	R Y W	1 - 4
Catchfly	Silene	Pk	
French Marigold	Tagetes	Y O	10 - 4
‡Pansy	Viola	P B Y W	1 - 3
‡Viola	Viola	B Y W	1 - 3

## PERENNIALS

(See also "Perennials Suitable for Rock Gardens")

**Key to colors:**

Pk—pink.	Y—yellow.	W—white.
R—red.	B—blue.	V—violet.
O—orange.	P—purple.	sh—shades.

(‡ indicates plants suitable for shade)

Common Name	Botanical Name	Color
<b>Over one foot</b>		
Flowering Onions	Allium sp.	P B Pk Y W
‡Wood Anemone	Anemone sylvestris	W
Golden Camomile	Anthemis tinctoria 'Kelway'	Y
‡Colorado Columbine	Aquilegia coerulea	B
‡Lily-of-the-Valley	Convallaria majalis	W
Siberian corydalis	Corydalis nobilis	W
Grass Pink	Dianthus plumarius	Pk
Shadow Valley Carnation	Dianthus var.	R
‡Pacific Bleeding Heart	Dicentra formosa	Pk
Evergreen Candytuft	Iberis sempervirens	W
Arkwright Campion	Lychnis arkwrighti	O to Pk
Iceland Poppy	Papaver nudicaule	R Y W sh O
Blue Phlox	Phlox divaricata	P B
Cortusa Primrose	Primula cortusoides	P R W sh
‡Bethlehem Lungwort	Pulmonaria saccharata	R to W
Tulip	Tulipa sp. in variety	P R Y W sh
Woolly Speedwell	Veronica incana	P
Spike Speedwell	Veronica spicata	B to Pk
<b>Over two feet</b>		
Sneezeworth Yarrow	Achillea ptarmica	W
‡Italian Bugloss	Anchusa azurea	B
‡Longspur Columbine	Aquilegia longissima	B R Y sh
Rhone Aster	Aster acris	Pk
New York Aster	Aster novibelgi	B R W
Dahurian Bellflower	Campanula glomerata dahurica	P
Peachleaf Bellflower	Campanula persicifolia	B W
Mountain Bluet	Centaurea montana	B
Florists Pyrethrum	Chrysanthemum coccineum	R Y W sh
Shasta Daisy	Chrysanthemum maximum	W
Bigflower Coreopsis	Coreopsis grandiflora	Y
Siberian Larkspur	Delphinium grandiflorum chinense	P B W
Ruyschianum Dragonhead	Dracocephalum ruyschianum	P
Oregon Fleabane	Erigeron speciosus	P
Seaholly Eryngo	Eryngium maritimum	B
‡European Meadowsweet	Filipendula ulmaria	W
Common Perennial Gaillardia	Gaillardia aristata	R Y
Caucasus Geranium	Geranium ibericum	B
Baby's Breath	Gypsophila paniculata	W
‡Blue Plantainlily	Hosta caerulea	P
‡Spotted St. Johnworth	Hypericum punctatum	Y
Tall Gayfeather	Liatris scariosa	Pk
Perennial Flax	Linum perenne	B
Maltesecross Campion	Lychnis chalcidonica	R
Clammy Campion	Lychnis viscaria	R
‡Wildbergamot Beebalm	Monarda fistulosa	P
Decussata Phlox	Phlox decussata	P B W
Greekvalerian Polemonium	Polemonium caeruleum	B
Polyantha Primrose	Primula polyantha	various
Tall Buttercup	Ranunculus acris	Y
Black Eyed Susan	Rudbeckia hirta	Y
Meadow Sage	Salvia pratensis	B R W

Common Name	Botanical Name	Color
Bouncing Bet	<i>Saponaria officinalis</i>	Pk
Caucasian Scabious	<i>Scabiosa caucasica</i>	B Pk W
<b>Over three feet</b>		
‡Monkshood	<i>Aconitum napellus</i>	B
New England Aster	<i>Aster novaeangliae</i>	P Pk
Solitary Clematis	<i>Clematis integrifolia</i>	B
Mongrel Larkspur	<i>Delphinium hybridum</i>	B W
‡Common Bleeding Heart	<i>Dicentra spectabilis</i>	Pk
Gasplant Dittany	<i>Dictamnus albus</i>	P W
Small Globe Thistle	<i>Echinops ritro</i>	B
Common Sneezeweed	<i>Helenium autumnale</i>	Y O
Rough Heliopsis	<i>Heliopsis scabra</i>	Y
Greatleaf Golden Ray	<i>Ligularia speciosa</i>	Y
Washington Lupine	<i>Lupinus polyphyllus</i>	P R Y sh
‡Purple Lythrum	<i>Lythrum salicaria</i>	P
Lythrum (Manitoba varieties)	<i>Lythrum virgatum</i>	Pk
Oriental Poppy	<i>Papaver orientale</i>	R Y W O
‡Shell-leaf Penstemon	<i>Penstemon grandiflorus</i>	P
Lionsheart	<i>Physostegia virginiana</i>	P
‡Columbine Meadowrue	<i>Thalictrum aquilegifolium</i>	P to W
‡Ledebour Globeflower	<i>Trollium ledebouri</i>	Y
Garden Heliotrope	<i>Valeriana officinalis</i>	V

### Biennials

Hollyhock	<i>Althaea rosea</i>	R Y W P
Chrysanthemum Hybrids	<i>Chrysanthemum</i>	
Canterbury Bells	<i>Campanula media</i>	B Pk W
Sweet William	<i>Dianthus barbatus</i>	R W
Dames Rocket	<i>Hesperis matronalis</i>	P W

## PERENNIALS SUITABLE FOR ROCK GARDENS

### Under six inches

Stonecress	<i>Aethionema pulchellum</i>	Pk
Alpine Rockcress	<i>Arabis alpina</i>	Pk W
Larchleaf Sandwort	<i>Arenaria loricifolia</i>	W
Carpathian Bellflower	<i>Campanula carpatica</i>	B to W
Snow-in-summer	<i>Cerastium tomentosum</i>	W
Maiden Pink	<i>Dianthus deltoides</i>	Pk
‡Common Shooting Star	<i>Dodecatheon Media</i>	P W
Creeping Gypsophila	<i>Gypsophila repens</i>	W
Common Edelweiss	<i>Leontopodium alpinum</i>	W
Common Grapehyacinth	<i>Muscari botryoides</i>	B
Moss Phlox	<i>Phlox subulata</i>	R to W
Arctic Phlox	<i>Phlox borealis</i>	P
‡Bloodroot	<i>Sanguinaria canadensis</i>	W
Rock Soapwort	<i>Saponaria ocymoides</i>	Pk
Saxifrage	<i>Saxifraga decipiens</i>	R
Siberian Squill	<i>Scilla sibirica</i>	B
Stonecrop	<i>Sedum sp.</i>	R Y P
Houseleeks	<i>Sempervivum sp.</i>	R Pk
Moss Silene	<i>Silene acaulis</i>	Pk
Mother-of-Thyme	<i>Thymus serpyllum</i>	R W
Hungarian Speedwell	<i>Veronica latifolia</i>	B Pk
‡Horned Violet	<i>Viola cornuta</i>	B R Y W

### Under twelve inches

Golden Tuft Alyssum	<i>Alyssum saxatile</i>	Y
European Pasqueflower	<i>Anemone pulsatilla</i>	P
‡Alpine Columbine	<i>Aquilegia alpinus</i>	B Y
Alpine Aster	<i>Aster alpinus</i>	B
Hascomb Gentian	<i>Gentiana hascombensis</i>	B
Dwarf Iris	<i>Iris pumila</i>	B Y W
Golden Flax	<i>Linum flavum</i>	Y
‡Alpine Forget-Me-Not	<i>Myosotis alpestris</i>	B Y
‡Persian Nepeta	<i>Nepeta mussini</i>	Pk
Sawsepal Penstemon	<i>Penstemon glaber</i>	B
Auricula Primrose	<i>Primula auricula</i>	P R Y & sh
Stonecrop	<i>Sedum sp.</i>	R Y P
Rock Garden Tulips	<i>Tulipa fosteriana</i>	R
	<i>Tulipa kolpakowskiana</i>	O
	<i>Tulipa tarda</i>	Y
	<i>Tulipa urumiensis</i>	Y
Saxifrage Tunicflower	<i>Tunica saxifraga</i>	Pk

### Under eighteen inches

Flowering Onion	<i>Allium sp.</i>	P B Pk
Clammy Campion	<i>Lychnis viscaria</i>	Pk

## DAHLIAS

### DWARF, SINGLE BEDDING TYPES

Collarette — various colors.  
Coltness Gem—scarlet.  
Unwin Hybrids—various colors.

### POMPOMS

Pink Gem—rose pink.  
Pinnocchio—deep orange.  
Red Baby—blood red.  
Sherryl—deep purple.  
Yellow Gem—canary yellow.

### MINIATURES

#### Cactus and Semi-Cactus

Baby Royal—salmon pink.  
Little Sunbeam—bright orange, salmon sheen centre.  
Fortune—salmon pink on yellow ground.

#### Semi-decorative

Pink Lady—pink.  
Poppy—deep coral pink.  
Rickey—red and white bi-color.  
Silvia—rich carmine.  
Snowbaby—white.

### EXHIBITION

#### Decorative Type

Azura—lilac.  
Croydon Glory—primrose yellow.  
D'Arcy Sainsbury—pure white.  
Wachtung Giant—amber yellow suffused carmine.  
Ogden Reid—mauve.  
Severgn's Triumph—pink.  
Zantine—brilliant yellow.  
Croydon Crimson—good red.  
Indiana Moon—orange.  
Mrs. G. le Boutillier—giant red.

#### Cactus and Semi-Cactus

Brioso—scarlet, tipped white.  
King Albert—purple, tipped white.  
Lady Gartmore—dark velvety red.  
Stephen Foster—buff orange.  
Son of Satan—good red.  
White Sheik—white.

## CULTURE, PROPAGATION AND STORAGE OF DAHLIAS

Dahlias do best in soils to which considerable organic matter has been added.

Although these plants do not like competition, they should be grown in a location where they can be protected from the hot afternoon sun.

Dahlias are perennial, but they must be dug every fall and stored during the winter.

Plants may be dug when the foliage has been blackened by the first killing frosts. Tops are cut off an inch or so above the surface of the ground, and the large tuberous root clumps are lifted and allowed to dry until the soil just falls off. The intact clumps are then packed in granulated peat moss, vermiculite or clean, almost dry sand and stored where the temperature can be maintained at 35° - 45° F. for the winter.

In the spring, divide the root clump so that each root possesses at least one bud. If the whole clump



is planted, too much sucker growth appears and flowers are small. When planting, cover the roots to a depth of four inches and space them three feet apart. Do not water at time of planting.

Suckers and side growth can be taken from the plants and used for green cuttings. These cuttings develop rapidly and provide an excellent means for increase.

## DAYLILIES

### Species

Hemerocallis aurantiaca—Orange Yellow  
Hemerocallis dumortieri—Golden Brown  
Hemerocallis flava—Pale Yellow  
Hemerocallis fulva—Copper Orange  
Hemerocallis middendorffii—Rich Orange  
Hemerocallis thunbergii—Golden Yellow

### Varieties

Amur—Yellow	Kwanso—dbl. Copper Red
Apricot—Apricot Yellow	Linda—Rose Pink
Baronet—Red	Major—Orange Copper
Black Prince—Purplish Red	Minnie—Rich Mahogany
Boutoniere—Peach Yellow	Margaret Perry—Orange Scarlet
Calypso—Lemon Yellow	Mikado—Buff Orange
Cinderella—Red & Copper Lemon	Mykawa—Orange Yellow
Dominion—Deep Red	Purple Waters—Wine Purple
Donald Wyman—Tangerine Orange	Sceptre—Jonquil Yellow
Dr. Rigel—Deep Orange	Serenade—Pink Yellow
Estmere—Pale Yellow	Sachem—Carmine Red
Gaiety—Pale Yellow	Russell Minuet—Rich Rose
Geo Yeld—Orange Rose	Radiant—Cadmium Orange
Gloria—Bright Orange	Wondergold—Orange Yellow
Golden Dream—Rich Orange	

## GLADIOLUS

**KEY**—The numerical classification currently followed by the Canadian Gladiolus Society has been used to indicate size and color of bloom for the varieties listed below. The first numeral of the trio designates diameter of floret, dividing varieties into five size groups, as follows:

Giant	500	Florets 5½ inches and larger.
Large	400	Florets 4½ ins. up to 5½ ins.
Medium	300	Florets 3½ ins. up to 4½ ins.
Small	200	Florets 2½ ins. up to 3½ ins.
Miniature	100	Florets under 2½ ins.

The second and third numerals designate the color as indicated by headings of the fifteen major color sections. Within each section increase in numerical values indicates color intensification. When "odd," the last numeral indicates some conspicuous marking.

### Section 1 — White — 00 and - 01.

(500) Prof. Goudriaan; (400) Antarctic, Florence Nightingale, Mother Fischer, Sierra Snow, Snow Velvet, Snow Princess; (300) Cupid, Naomi, White Lace; (301) Crusader; (200) Daintiness, Polar Cub, Starlet.

### Section 2—Green -04, and Cream -06, -07.

(506) Leif Ericsson; (507) Salmans Glory; (406) Greenland, Lady Jane, Lorelei; (407) Appleblossom, Columbia; (404) Green Ice; (307) Ares; (204) Bambi.

### Section 3—Yellow -10 to -15.

(512) Forsythia; (410) Fulda, Prospector; (412) Flowersong, Fort Knox, Gold Bank, Robert Alan, Sundance; (310) Dresden, Goldruff; (312) Catherine Beath; (313) Topolino; (214) Goldette, Green Thumb; (213) Statuette, Marionette.

**Section 4—Buff -16, -17; Orange -20 to -27.**

(516) A. B. Coutts, Peach Glow; (416) Bornholm; (417) Pactolus; (217) Don Pedro, Figurine; (520) Regina; (523) Circe; (422) Atlantic, Fire Opal; (320) Sprite; (220) Little Gold; (221) Coq d'O'R; (224) Crinklette; (226) Toytown.

**Section 5—Salmon -30 to -33.**

(530) Wax Canary; (532) Rose Lustre, Salmon Queen; (533) Boldface; (430) Carmen Corliss; Polynesie; (432) Fraser, Gaylore; (331) Melodie; (230) Baby Butterfly; (231) Bo-peep; (232) Twinkles; (233) Emily's Birthday, Peter Pan.

**Section 6 — Light Pink -40 and -41.**

(540) Ethereal, Evangeline, Pink Harmony; (440) Coronation, Pennant, Phantom Beauty, Pink Lustre, Wedding March; (340) Mary Anne; (240) Little Sweetheart; (241) Puck.

**Section 7 — Deep Pink -42 to -45.**

(542) Boudoir, Heart's Desire; (545) Cotillion; (442) Dr. Fleming, Friendship, Loretta, Maytime, Sweet Sixteen, Tivoli; (444) Spic and Span; (242) Peggy Ann, Skalawag, Zona; (244) Aria.

**Section 8 — Scarlet -36 and -37.**

(536) Bright Flame; (436) Dieppe, Fire Gleam, Red Wing, Revelation, Sans Souci; (437) Carnival; (336) Kerry Dancer; (337) Vivaldi; (236) Atom, Red-cap.

**Section 9 — Light and Medium Red -50 to -53.**

(550) Red Tape; (450) Early Red, Redcoat, Red Radiance, Royal Stewart; (451) Leah Gorham; (452) Life Flame, Red Charm; (350) Radiance; (251) Zig Zag; (252) Ruby.

**Section 10 — Black Red -54 and -55.**

(554) Dark David; (454) Black Cherry, Black Jack; (354) Black Opal, Negus; (254) Fifth Avenue.

**Section 11—Rose -60 to -65.**

(563) Rosita; (564) Burma; (460) Traveller; Pink Diamond; (461) Shirley Irene; (462) Elmer's Rose, Rose Spire; (463) Edgewood; (464) Brenda, Rose-lyn; (360) Rose Charm; (261) Little Pal; Peasant Maid; (262) Bonnie Prince.

**Section 12 — Lavender -66 to -69.**

(566) Bridal Orchid, Elizabeth the Queen, Francesca, Princess, Valda; (567) Falcon; (569) Pirate Chief; (466) Huntress, Lavender Beauty, Lavender Joy, Tyrone, Campanile; (469) Sterling; (366) Lavender and Gold, Wedgewood; (369) Benjamin Britten; (266) Fairy, Lavender Petunia; (268) Queen of Bremen.

**Section 13 — Purple -70 and 71.**

(570) King David, Purple Burma; (470) Royal Scot, The Rajah, Wonder Boy; (471) Karen, Emperor.

**Section 14 — Violet -76 to -79.**

(578) Pfitzers Sensation, Salmans Sensation; (478) Blue Peter; (477) Ravel; (476) Sailor Boy, Violet Charm; (378) Abu Hassan; (376) Caribbean.

**Section 15—Smoky Tones and Polychromes -80 to -91.**

(590) Cherokee, Salamanca; (580) Copper Lustre; (480) Storm Cloud, Stormy Weather, Tan Glo; (483) Dusk; (486) Dusty Miller; (391) Vagabond Prince, Gypsy Love; (286) Old Smith; (290) Pinocchio.

**NOTE :—**In using the above list when purchasing corms, the catalogue's information regarding blooming season should be carefully considered as a guide to the suitability of a variety for your area.



## CULTURE AND STORAGE OF GLADIOLUS

Gladiolus are sun-loving plants and will produce high quality blooms on any soil provided large corms of recommended varieties are planted. Small corms—less than one inch in diameter — are apt to bloom late and will produce smaller spikes.

Gladiolus are usually planted at a depth of three to five inches, and from six to eight inches apart in the row. Bone meal (5 lbs. per 100 foot of row) or low analysis complete garden fertilizer (2 lbs. per 100 ft.) at planting time will help in the production of stronger plants and better bloom. Some growers find a light side dressing of complete fertilizer when the plants are half-grown is beneficial.

Dig Gladiolus when leaves begin to wither from maturity or frost. Tops should be removed by cutting them off one inch, or less, above the corm. The corm ripening, necessary for sound storage, is speeded up by heat drying for 10 to 14 days in temperatures of 80° F. to 90° F. A light film of 5% D.D.T., or other insecticide, puffed over the newly dug corms will eliminate any live thrips during this period.

A month to six weeks after digging, the old withered corms can be separated from the new. The outermost husk may be removed at this time, leaving the inner ones to protect the corm. Destroy all specimens showing disease. At this time it is beneficial to coat the entire corm with a dust mixture containing both fungicide and insecticide. Commercial Gladiolus dusts are available for this purpose. Store the new corms in open boxes or open paper bags in a dry place at a temperature of 42° to 50° F.

## IRIS

**Note :** — S, Standard; F, Fall.

**Bearded Iris**—*Iris germanica*

**Height 18" - 24".**

**White :**

Crystal Beauty—white.

Mme. Chereau—S white, F lavender blue.

White Knight—snow white.

**Blue :**

Bruno—S bronze violet, F deep violet.

Gold Crest—S violet blue, F yellow.

Great Lakes—light blue.

Souv de Mme. Gaudichau—dark blue.

Wedgewood—light blue.

**Pink :**

Alcazar—S mauve pink, F reddish purple.

Angelus—pink.

Frank Adams—S rosy fawn, F pink.

Frivolite—light pink.

**Purple :**

Adante—rich purple.

Directeur Pinelle—brown purple.

Lent A. Williamson—S. lavender violet, F. purple.

Pioneer—red purple.

**Red :**

Dauntless—red.

Depute Nomblot—S bronze, F purple crimson.

E. B. Williamson—copper orange red.



## Yellow :

Amber—yellow.

Allure—canary yellow.

Jean Cayeaux—Havana brown.

Marquita—S cream, F rose.

Pluie d'or—yellow.

Vesper Gold—S. tan, F blue.

## Siberian Iris — *Iris sibirica*

### Height 14"—18"

Gatineau—pale blue.

Madawaska—dark violet.

Rideau—blue.

Snow Queen—white.

Tropic Knight—violet.

Caesar—red purple.

Caesar's Brother—almost black.

## Dwarf Iris — *Iris pumila*

### Height 8"—10"

Blue, white and purple varieties.

## Other Species —

*Iris flavissima*

*Iris spurium*

*Iris graminea*

*Iris versicolor*

*Iris pseudacorus*

*Iris virida*

## CULTURE AND PROPAGATION OF IRIS

Bearded Iris grow well in almost any soil, providing two requirements are satisfied; these are: good drainage, and plenty of sunlight. The Beardless varieties, on the other hand, require moister conditions, and thus prefer a heavier soil.

The best time for transplanting is during July and August. The procedure is to dig the plants and pull them apart, so that each division has two or three fans of leaves.

Shallow planting is recommended for Bearded Iris; however, the soil should be packed firmly about the rhizomes. Beardless Iris have fibrous root systems and require a deeper soil.

## PEONIES

¶ Denotes rating of American Peony Society (perfect score—10).

E —Early.

EM—Early Mid-season.

M —Mid-season.

LM—Late Mid-season.

L —Late.

	¶	Doubles	
Class 1	9.3	E	Festiva Maxima
(White)	7.9	EM	Mme. de Verneville
	9.56	M	Kelway's Glorious
	9.42	M	Le Cygne
	9.0	LM	Baroness Schroeder
	9.17	LM	La Lorraine
	9.27	L	Solange
Class 2	8.1	E	Mme. Calot
(Light Pink)	9.1	M	Lady Alexandra Duff
	9.1	M	Rose Shaylor
	9.54	M	Therese
	9.4	LM	Mme. Jules Dessert

Class 3	7.6	E	Edulis Superba
(Medium Pink)	9.2	E	M. Jules Elie
	9.3	M	Athelstane
	9.0	M	Walter Faxon
	9.0	LM	Sarah Bernhardt
	8.7	LM	Phyllis Kelway
		L	Claire Dubois
Class 4	8.7	M	Auguste Dessert
(Deep Pink)	9.1	L	Souvenir de Louis Bigot
	8.85	LM	Mme. Emile Debatene
Class 5	8.5	E	P. tenuifolia (double)
(Red)	8.5	EM	Adolphe Rousseau
	9.0	M	Longfellow
	8.4	LM	Felix Crousse
Class 6	8.6	EM	Cherry Hill
(Dark Red)	9.2	M	Philippe Rivoire
	8.8	M	Karl Rosenfield
<b>Japanese</b>			
	9.2	M	Ama-no-sode
	9.2	M	Fuyajo
	9.3	M	Isani Gidui
	8.6	M	Mikado
	9.0	M	Toro-no-maki
<b>Singles</b>			
	8.6	E	Le Jour
	8.5	EM	Rosy Dawn
	8.47	M	L'Etincelante
	8.9	M	Pride of Langport
	9.04	L	Krinkled White

## HARDY TREES AND SHRUBS

There are many other types and varieties; only those generally available are listed here.

The materials below are not numbered consecutively. The list often is used as a standard key in landscape plans; thus it has been found desirable to fill in the blanks rather than change the numbering when the Guide is revised.

‡ Denotes plants suitable for shade.

\* Only Prairie selections recommended.

† Not hardy in Zones 5 and 5B.

## EVERGREENS

### Tall Growing

1	White Spruce.....	Picea glauca
2	Colorado Spruce, Blue or Green .....	Picea pungens
3	Koster Blue Spruce .....	Picea pungens (Koster)
4	Endtzi Blue Spruce .....	Picea pungens
5	Morden Blue Spruce .....	Picea pungens
6	Scotch Pine .....	Pinus sylvestris
7	Lodgepole Pine .....	Pinus contorta
8	Swiss Stone Pine .....	Pinus cembra
10*	‡ White Cedar .....	Thuja occidentalis

### Low Growing

16	Prostrate Juniper .....	Juniperus communis depressa, 18-24"
18	Mountain Juniper .....	Juniperus communis saxatilis, 12"
19	Creeping Juniper .....	Juniperus horizontalis, 6"
20	Savin Juniper .....	Juniperus sabina, 24"
21	Rocky Mountain Juniper .....	Juniperus scopulorum, 6-8'
22	Mugho Pine .....	Pinus mugo compacta, 5-7'
23	Ware's Siberian Cedar .....	Thuja occidentalis robusta, 7'



## DECIDUOUS

### Trees over 15 feet high

27	Ohio Buckeye.....	Aesculus glabra
28	Paper Birch.....	Betula papyrifera
29	Cutleaf Weeping Birch.....	Betula pendula (gracilis)
31	Green Ash.....	Fraxinus pennsylvanica lanceolata
32	Native Tamarac.....	Larix laricina
33	Siberian Crab Hybrids.....	Malus baccata
34	Griffin Poplar.....	Populus (hybrid)
35	Northwest Poplar.....	Populus (hybrid)
37	White Oak.....	Quercus alba
38	Bur Oak.....	Quercus macrocarpa
39	Siberian White Willow.....	Salix alba sericea
40	Sharpleaf Willow.....	Salix acutifolia
41	Laurel Willow.....	Salix pentandra
42	‡American Mountain Ash.....	Sorbus americana (multiple stemmed)
43	‡Western Mountain Ash.....	Sorbus decora (multiple stemmed)
44	Japanese Tree Lilac.....	Syringa amurensis japonica
45	American Elm.....	Ulmus americana (Western strain)
46	Dropmore Elm.....	Ulmus pumila (Dropmore strain)
53	Mayday Tree.....	Prunus padus

### SHRUBS OR TREE-LIKE SHRUBS OVER 10 FEET HIGH

47	‡Canadian Plum.....	Prunus nigra
49	‡Tartarian Maple.....	Acer tataricum
50	Saskatoon.....	Amelanchier alnifolia
51	Hawthorn.....	Crataegus sp.
52	‡Russian Olive.....	Elaeagnus angustifolia
54	Amur Cherry.....	Prunus maacki
55	Hungarian Lilac.....	Syringa josikaea
56	Late Lilac.....	Syringa villosa
57	Flowering Crabs.....	{ ‡Almey
		{ ‡Strathmore
		{ Arctic Dawn
		{ Jubilee
		{ Snowcap
58	Lilac Hybrids of Syringa villosa, S. reflexa and S. oblata dilitata	
59	Schubert Chokecherry.....	Prunus virginiana melanocarpa var.

### SHRUBS USUALLY 6 TO 10 FEET HIGH

61	Ginnalian Maple.....	Acer ginnala
62	Common Caragana.....	Caragana arborescens
63	Silverberry.....	Elaeagnus commutata
64	Salt Tree.....	Halimodendron halodendron
65	Sea Buckthorn.....	Hippophae rhamnoides
66	Tartarian Honeysuckle.....	Lonicera tatarica (in variety)
67	Altai Rose.....	Rosa spinosissima altaica
68	‡Red Elder.....	Sambucus racemosa
69	Silver Buffaloberry.....	Shepherdia argentea
70	‡Common Lilac and Varieties.....	Syringa vulgaris
71	‡Highbush Cranberry.....	Viburnum trilobum

### SHRUBS USUALLY 4 TO 6 FEET HIGH

74	Hansen's Hedge Rose.....	Rosa laxa
75	Fernleaf caragana.....	Caragana arborescens lorbergi
76	‡‡Variegated Dogwood.....	Cornus alba elegantissima
77	‡Redtwig Dogwood.....	Cornus stolonifera
78	‡Goldentwig Dogwood.....	Cornus stolonifera flaviramea
79	‡Manchu (Nanking) Cherry.....	Prunus tomentosa
80	‡Smooth Sumac.....	Rhus glabra
81	‡Double Flowering Plum.....	Prunus triloba fl. pl.
82	Flowering Currant.....	Ribes aureum
83	Alpine Currant.....	Ribes alpinum
84	‡Redleaf Rose.....	Rosa rubrifolia
85	‡Golden Elder.....	Sambucus nigra aurea
86	Mottled Dogwood.....	Cornus alba gouchaulti
87	Siberian Coral Dogwood.....	Cornus alba sibirica
88	European Fly Honeysuckle.....	Lonicera xylosteum
89	Purple Willow.....	Salix purpurea

### SHRUBS USUALLY 3 TO 4 FEET HIGH

90	Globe Caragana.....	Caragana frutex globosa
91	‡Indigo Bush.....	Amorpha fruticosa
92	Pygmy Caragana.....	Caragana pygmaea
93	‡Peking Cotoneaster.....	Cotoneaster acutifolia

## SHRUBS USUALLY 3 TO 4 FEET HIGH (Continued)

94 ‡European Cotoneaster.....	Cotoneaster integerrima
95 ‡Hedge Cotoneaster.....	Cotoneaster lucida
96 ‡‡Snow Hills Hydrangea .....	Hydrangea arborescens grandiflora
98 †Cherry Prinsepia .....	Prinsepia sinensis
99 Waterton Mockorange.....	Philadelphus lewisii waterton
100 Sandcherry.....	Prunus besseyi
101 †Purple Leaf Sandcherry .....	Prunus cistena
102 †Chinese Bush Cherry .....	Prunus japonica
103 Roses, Hardy Bush Types.....	Rosa Hansa, Rosa Betty Bland
104 Billiard Spirea.....	Spiraea billiardi
105 Germander Spirea.....	Spiraea chamaedryfolia
106 Oriental Spirea.....	Spiraea media sericea
107 Pikow Spirea.....	Spiraea pikovensis
108 Korean Spirea.....	Spiraea trichocarpa
109 Three Lobed Spirea.....	Spiraea trilobata
115 Sweetberry Honeysuckle.....	Lonicera coerulea

## SHRUBS USUALLY 1 TO 3 FEET HIGH

113 Poirrets Barberry .....	Berberis poirleti
114 Purple Barberry.....	Berberis thunbergi atropurpurea
97 Albert Thorn Honeysuckle.....	Lonicera spinosa alberti
116 Bush Cinquefoil.....	Potentilla fruticosa
117 Friedrichsen Bush Cinquefoil.....	Potentilla fruticosa Friedrichseni
118 Russian Almond.....	Prunus tenella
119 Froebel Spirea.....	Spiraea bumalda froebeli
120 Viburnum opulus nanum.....	Dwarf viburnum

## SHRUBS LESS THAN 1 FOOT HIGH

122 Bearberry (native) .....	Arctostaphylos uva-ursi
123 ‡Rose Daphne.....	Daphne cneorum
124 ‡Dwarf Burningbush.....	Euonymus nanus
125 †Mountain Lover.....	Pachystima canbyi

## PERENNIAL WOODY VINES

Jackmann's Clematis .....	Clematis jackmani
Western Virginibower.....	Clematis ligusticifolia
Hermitgold Clematis.....	Clematis serratifolia
‡Golden Clematis .....	Clematis tangutica
Rock Clematis.....	Clematis verticillaris
Common Hops .....	Humulus lupulus
Donald Honeysuckle.....	Lonicera glaucescens
Dropmore Scarlet Trumpet Honey- suckle .....	Lonicera hirsuta x Lonicera sempervirens
Common Virginia Creeper .....	Parthenocissus quinquefolia
Self-clinging Virginia Creeper .....	Parthenocissus quinquefolia englemanni
Riverbank Grape.....	Vitis riparia

## PLANTING TREES AND SHRUBS

Spring planting is preferred for most trees and shrubs.

### Deciduous Material :

Keep roots moist, and protect from wind and sun until planted.

Dig holes large enough to hold roots without cramping and set plant slightly deeper than before.

Prune off any broken or dead portions of the root and then work top soil among the roots until hole is full. Tramp soil firmly to eliminate any air spaces which cause drying out of roots. If soil is dry half fill hole with water and allow to soak away. Leave a small depression for water.



## **Evergreens :**

When these come from the nursery with their roots balled in soil and wrapped with burlap, do not remove the burlap when planting. It does not hinder the growth of the roots as it rots quickly. Dig hole deep enough to hold the ball, pack top soil around it and proceed exactly as you would for deciduous material. When watering, however, break the force of the water by wrapping burlap around the end of the hose.

Evergreens may be planted in the late summer, but should be watered heavily before freeze-up in order to bring them through the winter.

## **SHELTERBELTS**

### **General Information :**

1. Summerfallow one year prior to planting.
2. Fence to protect against livestock.
3. Guard against fire damage.
4. Maintain clean cultivation both inside and outside of shelterbelt.
5. Never plant evergreens in same row as broad-leaf trees.
6. Never prune shelterbelt trees except to remove dead or broken branches.
7. Always prepare a definite and complete plan of the tree planting program before the work is started.

### **Farmstead Shelterbelts :**

1. Enclose an area of 5 to 10 acres.
2. Allow at least 100 feet between buildings and shelterbelts.
3. The two main shelterbelts should be on the north and west sides of the farmstead to give maximum protection against prevailing winds.
4. Space the rows 2 feet wider than cultivating equipment.
5. Space the trees 6 to 8 feet apart in the rows.
6. The shelterbelt may have from one to a dozen rows depending on land available.
7. For quick shelter, plant fast growing trees.
8. For permanent shelter, plant slower growing broadleaf trees and evergreens.

### **Field Windbreak :**

1. Before planting you should have a thorough knowledge of prevailing summer and winter winds and a willingness to modify farm operations.
2. For a single row of trees a strip of land 15 to 20 feet wide is necessary.
3. Field shelterbelts need not be closer together than 30 to 40 rods.

## **Roadside Windbreaks :**

1. Plant 125 feet from edge of the road.
2. As a suggested start, trees can be planted where snow fences are now placed.
3. Planting can be enlarged later as benefit of these early plantings is realized.
4. By planting permanent snow fences, the cost of keeping roads and lanes free of snow may be reduced as much as 50 per cent.

## **TREES FOR SHELTERBELTS**

### **Deciduous :**

#### **Fast growing, short lived trees—**

Male poplars and cottonwoods, Sharp leaf and Laurel leaf Willow, Manitoba Maple (not for Zones 5, 5B), Dropmore Elm, Mayday.

#### **Slower growing, long lived trees—**

American Elm, Bur Oak, Green Ash.

#### **Low growing types for outside and inside rows—**

Caragana, Lilac, Honeysuckle, Buffaloberry, Native Fruits, Sea Buckthorn, Hawthorn, Dogwood, Flowering Currant (Potter Strain).

### **Evergreen :**

Colorado and White Spruce, Scotch and Lodgepole Pine.

## **SOURCES OF INFORMATION AND SHELTERBELT TREES**

Canada Forest Nursery Station, Indian Head, Sask.,  
Department of Agriculture, Field Crops Branch,  
Edmonton, Alberta.  
Apply one year in advance.

## **OTHER PUBLICATIONS**

Other publications of wide horticultural interest are available. Consult your District Agriculturist, or Experimental Farm Horticulturist for those on hand or write for lists to :

Extension Service, Alberta Dept. of Agriculture,  
Parliament Buildings, Edmonton.

Dept. of Extension, University of Alberta, Edmonton.

Information Service, Canada Dept. of Agriculture,  
Ottawa, Ontario.

**Committee personnel is made up of representatives from:** Canada Department of Agriculture, Alberta Department of Agriculture, University of Alberta, Commercial Horticulturists, Calgary and Edmonton City Parks Departments.



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# Notes

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